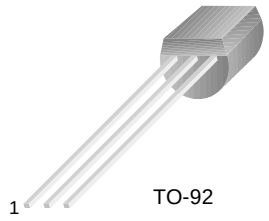
FAIRCHILD
SEMICONDUCTOR®

2N3819

N-Channel RF Amplifier

- This device is designed for RF amplifier and mixer applications operating up to 450MHz, and for analog switching requiring low capacitance.
- Sourced from process 50.



TO-92

1. Drain 2. Gate 3. Source

Epitaxial Silicon Transistor

Absolute Maximum Ratings* T_C=25°C unless otherwise noted

Symbol	Parameter	Ratings	Units
V_{DG}	Drain-Gate Voltage	25	V
V_{GS}	Gate-Source Voltage	-25	V
I_D	Drain Current	50	mA
I_{GF}	Forward Gate Current	10	mA
T_{STG}	Storage Temperature Range	-55 ~ 150	°C

* This ratings are limiting values above which the serviceability of any semiconductor device may be impaired.

NOTES:
1) These rating are based on a maximum junction temperature of 150 degrees C.
2) These are steady limits. The factory should be consulted on applications involving pulsed or low duty cycle operations.

Electrical Characteristics T_C=25°C unless otherwise noted

Symbol	Parameter	Test Condition	Min.	Typ.	Max.	Units
Off Characteristics						
$V_{(BR)GSS}$	Gate-Source Breakdwon Voltage	I_G = 1.0μA, V_{DS} = 0	25			V
I_{GSS}	Gate Reverse Current	V_{GS} = -15V, V_{DS} = 0			2.0	nA
V_{GS}(off)	Gate-Source Cutoff Voltage	V_{DS} = 15V, I_D = 2.0nA			8.0	V
V_{GS}	Gate-Source Voltage	V_{DS} = 15V, I_D = 200μA	-0.5		-7.5	V
On Characteristics						
I_{DSS}	Zero-Gate Voltage Drain Current	V_{DS} = 15V, V_{GS} = 0	2.0		20	mA
Small Signal Characteristics						
gfs	Forward Transfer Conductance	V_{DS} = 15V, V_{GS} = 0, f = 1.0KHz	2000		6500	μmhos
goss	Output Conductance	V_{DS}= 15V, V_{GS} = 0, f = 1.0KHz			50	μmhos
y_{fs}	Forward Transfer Admittance	V_{DS}= 15V, V_{GS} = 0, f = 1.0KHz	1600			μmhos
C_{iss}	Input Capacitance	V_{DS} = 15V, V_{GS} = 0, f = 1.0KHz			8.0	pF
C_{rss}	Reverse Transfer Capacitance	V_{DS} = 15V, V_{GS} = 0, f = 1.0KHz			4.0	pF

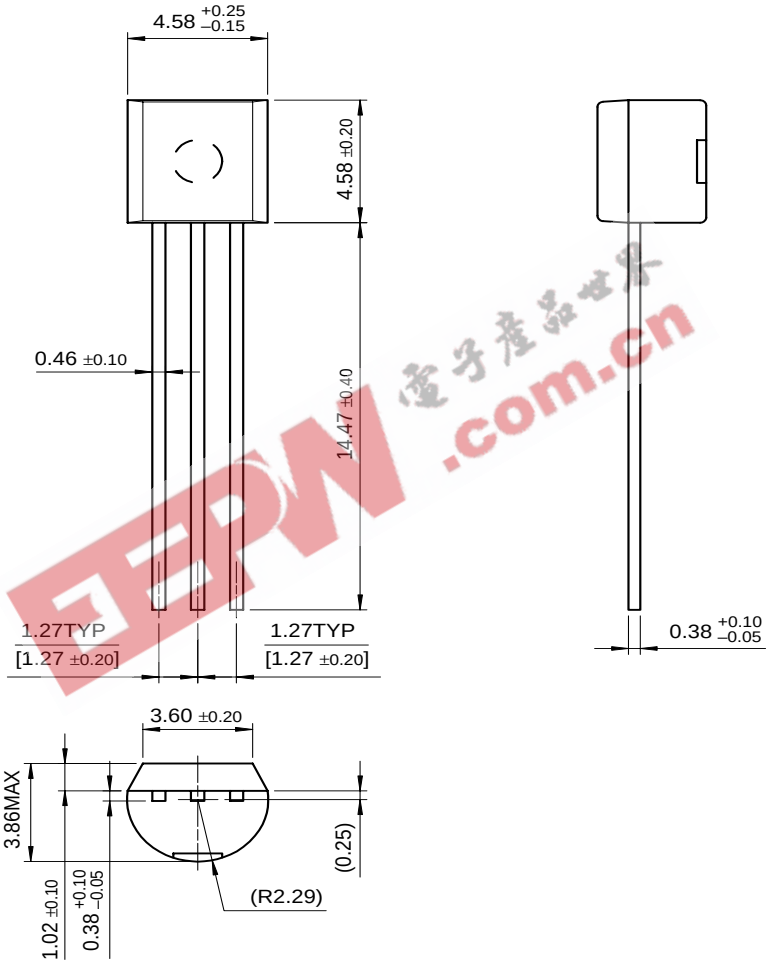
Thermal Characteristics T_A=25°C unless otherwise noted

Symbol	Parameter	Max.	Units
P_D	Total Device Dissipation Derate above 25°C	350 2.8	mW mW/°C
$R_{\theta JC}$	Thermal Resistance, Junction to Case	125	°C/W
$R_{\theta JA}$	Thermal Resistance, Junction to Ambient	357	°C/W

* Device mounted on FR-4 PCB 1.5" × 1.6" × 0.06"

Package Dimensions

TO-92



Dimensions in Millimeters

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CoolFET™	FASTr™	MicroFET™	PowerTrench®	SuperSOT™-6
CROSSVOLT™	FRFET™	MicroPak™	QFET™	SuperSOT™-8
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E^2CMOS™	HiSeC™	MSXPro™	Quiet Series™	TruTranslation™
EnSigna™	I^2C™	OCX™	RapidConfigure™	UHC™
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Programmable Active Droop™		OPTOPLANAR™	SMART START™	

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